



HEWLETT-PACKARD COMPANY  
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PATENT APPLICATION

ATTORNEY DOCKET NO. 200308979-1

IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Richard D. Ellison

Confirmation No.: 3099

Application No.: 10/719,771

Examiner: Alexander Jamal

Filing Date: November 21, 2003

Group Art Unit: 2614

Title: GAIN CONTROL

Mail Stop Appeal Brief - Patents  
Commissioner For Patents  
PO Box 1450  
Alexandria, VA 22313-1450

TRANSMITTAL OF REPLY BRIEF

Transmitted herewith is the Reply Brief with respect to the Examiner's Answer mailed on February 8, 2008.

This Reply Brief is being filed pursuant to 37 CFR 1.193(b) within two months of the date of the Examiner's Answer.

(Note: Extensions of time are not allowed under 37 CFR 1.136(a))

(Note: Failure to file a Reply Brief will result in dismissal of the Appeal as to the claims made subject to an expressly stated new ground rejection.)

No fee is required for filing of this Reply Brief.

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Respectfully submitted,

Richard D. Ellison

By 

Edward J. Brooks, III

Attorney/Agent for Applicant(s)

Reg No. : 40,925

Date : 02/27/2008

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Docket No.: 200308979-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/719,771  
Appellants: : Richard D. Ellison  
Filed: : November 21, 2003  
TC/A.U. : 2614  
Examiner: : Alexander Jamal  
Title : GAIN CONTROL

**APPELLANTS' REPLY BRIEF TO EXAMINER'S  
ANSWER DATED FEBRUARY 8, 2008**

MS APPEAL BRIEF-PATENTS  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir or Madame:

This Reply Brief, in compliance with 37 C.F.R. § 41.41, is in response to the Supplemental Examiner's Answer dated February 8, 2008, Examiner's Answer dated November 9, 2007 and in furtherance of the Notice of Appeal filed under 37 C.F.R. § 41.31 on July 2, 2007.

The Examiner's Grounds for Rejection are substantially the same as those presented in the Final Office Action dated June 5, 2007. Appellant has addressed these rejections in the Appeal Brief dated July 18, 2007. In the Supplemental Examiner's Answer dated February 8, 2008 the Examiner provides a response to the arguments presented in the Appeal Brief. Appellant respectfully traverses the assertions and conclusions provided in the Examiner's response. The following is the Appellant's Reply Brief in response to the Supplemental Examiner's Answer dated February 8, 2008, which incorporates the Appeal Brief dated July 18, 2007.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37:

- I. Real Party In Interest
- II. Related Appeals and Interferences
- III. Status of Claims
- IV. Status of Amendments
- V. Summary of Claimed Subject Matter
- VI. Grounds of Rejection to be Reviewed on Appeal
- VII. Argument
- VIII. Claims Appendix
- IX. Evidence Appendix
- X. Related Proceedings Appendix

The final page of this brief bears the attorney's signature.

## **I. REAL PARTY IN INTEREST**

The real parties in interest for this appeal are:

A. The Hewlett-Packard Development Company, LP, a limited partnership established under the laws of the State of Texas and having a principal place of business at 20555 S.H. 249 Houston, TX 77070, U.S.A. (hereinafter "HPDC"); and

B. HPDC is a Texas limited partnership and is a wholly-owned affiliate of Hewlett-Packard Company, a Delaware Corporation, headquartered in Palo Alto, CA. The general or managing partner of HPDC is HPQ Holdings, LLC.

## **II. RELATED APPEALS AND INTERFERENCES**

Appellant submits that no related application is presently undergoing appeal or interference proceedings.

## **III. STATUS OF CLAIMS**

A. Total Claims: 1-37

B. Current Status of Claims:

1. Claims canceled: none
2. Claims withdrawn: none
3. Claims pending: 1-37
4. Claims allowed: none
5. Claims rejected: 1-37
6. Claims objected to: none

C. Claims on Appeal: 1-37

#### **IV. STATUS OF AMENDMENTS**

Appellant has not filed any amendments to the application subsequent to the Final Office Action.

#### **V. SUMMARY OF CLAIMED SUBJECT MATTER**

##### **A. Independent claim 1**

Independent claim 1 recites a gain controller including a measurement module having program instructions to measure a power level of an outgoing voice signal stream before the outgoing voice signal stream enters an output channel that is communicating the outgoing voice signal stream to a Public Switched Telephone Network (PSTN). (Page 2, line 31, through page 3, line 9; page 6, line 1, through page 7, line 26; page 8, lines 1-22; page 11, lines 31-33; page 15, lines 7-12; and Figures 1-5). The gain controller also includes a gain factor setting module having program instructions to set a gain value by comparing the measured power level to a threshold (page 6, line 25, through page 7, line 8; page 7, lines 26-33; page 8, line 24, through page 9, line 4; page 10, lines 5-16; page 12, lines 1-8 and 23-32; and Figures 2-4), and a gain adjustment module having program instructions to adjust the power level of the outgoing voice signal stream by applying the gain value to the outgoing voice signal stream (page 3, lines 5-9; page 7, lines 3-8; page 9, lines 6-19; page 10, line 18, through page 11, line 13; page 12, lines 10-21; and Figures 2-4) to operate within compliance of the PSTN before the outgoing voice signal stream enters the output channel in communication with the PSTN. (Page 2, line 31, through page 3, line 5; page 9, line 21, page 10, line 3; page 15, lines 7-12; and Figures 1, 2, and 5).

Independent claim 1 is argued together with dependent claims 2-6.

B. Independent claim 7

Independent claim 7 recites a gain control system including a switch to receive a voice signal stream from a voice signal source (page 2, line 31, through page 3, line 5; page 3, lines 11-32; page 4, line 14, through page 6, line 8; page 11, lines 24-29; page 13, line 8, through page 15, line 5; and Figures 1, 2, 4, and 5), and a gain adjustment module to receive an outgoing voice signal stream from the switch, the gain adjustment module having program instructions to adjust a power level of the outgoing voice signal stream by applying a gain value to the outgoing voice signal stream. (Page 3, lines 5-9; page 7, lines 3-8; page 9, lines 6-19; page 10, line 18, through page 11, line 13; page 12, lines 10-21; and Figures 2-4). The gain control system also includes a measurement module having program instructions to measure a power level at a number of segments of the outgoing voice signal stream before the outgoing voice signal stream enters an output channel that is communicating the outgoing voice signal stream to a Public Switched Telephone Network (PSTN). (Page 2, line 31, through page 3, line 9; page 6, line 1, through page 7, line 26; page 8, lines 1-22; page 11, lines 31-33; page 15, lines 7-12; and Figures 1-5). In addition, the gain control system includes a gain factor setting module coupled to the gain adjustment module where the gain factor setting module includes program instructions to set the gain value by comparing the measured power level to a threshold (page 6, line 25, through page 7, line 8; page 7, lines 26-33; page 8, line 24, through page 9, line 4; page 10, lines 5-16; page 12, lines 1-8 and 23-32; and Figures 2-4) to operate within compliance of the PSTN before the

outgoing voice signal stream enters the output channel in communication with the PSTN. (Page 2, line 31, through page 3, line 5; page 9, line 21, page 10, line 3; page 15, lines 7-12; and Figures 1, 2, and 5).

Independent claim 7 is argued together with dependent claims 8-13.

C. Independent claim 14

Independent claim 14 recites a gain control system including a voice signal source to produce an outgoing voice signal stream, the voice signal source coupled to a Public Switched Telephone Network (PSTN) (page 2, line 31, through page 3, line 5; page 3, lines 11-32; page 4, line 14, through page 6, line 8; page 11, lines 24-29; page 13, line 8, through page 15, line 5; and Figures 1, 2, 4, and 5), and a media platform coupled to the PSTN and the voice signal source. (Page 3, line 11, through page 6, line 8; page 13, line 8, through page 15, line 5; and Figures 1 and 5). The media platform includes a switch to receive the voice signal stream from the voice signal source (page 2, line 31, through page 3, line 5; page 3, lines 11-32; page 4, line 14, through page 6, line 8; page 11, lines 24-29; page 13, line 8, through page 15, line 5; and Figures 1, 2, 4, and 5), a measurement module having program instructions to measure a power level of an outgoing voice signal stream before the outgoing voice signal stream enters an output channel that is communicating the outgoing voice signal stream to the PSTN (page 2, line 31, through page 3, line 9; page 6, line 1, through page 7, line 26; page 8, lines 1-22; page 11, lines 31-33; page 15, lines 7-12; and Figures 1-5), means for adjusting a power level of the voice signal stream (page 3, lines 5-9; page 6, line 25, through page 7, line 8; page 7, lines 3-8 and lines 26-33; page 8, line 24, through page 9, line 4; page 9, lines 6-19; page

10, line 5, through page 11, line 13; page 12, lines 1-32; and Figures 2-4) to operate within compliance of the PSTN before the outgoing voice signal stream enters an output channel in communication with the PSTN (page 2, line 31, through page 3, line 5; page 9, line 21, page 10, line 3; page 15, lines 7-12; and Figures 1, 2, and 5), and the output channel in communication with the PSTN to receive the voice signal stream from the media platform. (Page 3, lines 17-32; page 5, lines 1-8; page 6, lines 1-8 and line 30 through page 7, line 15; page 12, lines 14-16; page 13, line 8, through page 15, line 5; and Figures 1, 2, and 5).

Independent claim 14 is argued together with dependent claims 15-20.

D. Independent claim 21

Independent claim 21 recites a method for adjusting the power level of a voice signal stream. The method includes receiving an outgoing voice signal stream (page 2, line 31, through page 3, line 5; page 3, lines 11-32; page 4, line 14, through page 6, line 8; page 11, lines 24-29; page 13, line 8, through page 15, line 5; and Figures 1, 2, 4, and 5), measuring a power level of the outgoing voice signal stream at a number of points in time before the outgoing voice signal stream enters an output channel that is communicating the outgoing voice signal stream to a Public Switched Telephone Network (PSTN) (page 2, line 31, through page 3, line 9; page 6, line 1, through page 7, line 26; page 8, lines 1-22; page 11, lines 31-33; page 15, lines 7-12; and Figures 1-5), comparing at least one of the power levels measured at the number of points in time with a threshold (page 6, line 25, through page 7, line 8; page 7, lines 26-33; page 8, line 24, through page 9, line 4; page 10, lines 5-16; page 12, lines 1-8 and 23-32; and Figures 2-4), and adjusting the power level of the

outgoing voice signal stream based on the comparison (page 3, lines 5-9; page 7, lines 3-8; page 9, lines 6-19; page 10, line 18, through page 11, line 13; page 12, lines 10-21; and Figures 2-4) to operate within compliance of the PSTN before the outgoing voice signal stream enters the output channel in communication with the PSTN. (Page 2, line 31, through page 3, line 5; page 9, line 21, page 10, line 3; page 15, lines 7-12; and Figures 1, 2, and 5).

Independent claim 21 is argued together with dependent claims 22-26.

E. Independent claim 27

Independent claim 27 recites a computer readable medium having a program to cause a device to perform a method. The method includes receiving an outgoing voice signal stream (page 2, line 31, through page 3, line 5; page 3, lines 11-32; page 4, line 14, through page 6, line 8; page 11, lines 24-29; page 13, line 8, through page 15, line 5; and Figures 1, 2, 4, and 5), measuring a power level of the outgoing voice signal stream at a number of points in time before the outgoing voice signal stream enters an output channel that is communicating the outgoing voice signal stream to a Public Switched Telephone Network (PSTN) (page 2, line 31, through page 3, line 9; page 6, line 1, through page 7, line 26; page 8, lines 1-22; page 11, lines 31-33; page 15, lines 7-12; and Figures 1-5), comparing at least one of the measured power levels with a threshold (page 6, line 25, through page 7, line 8; page 7, lines 26-33; page 8, line 24, through page 9, line 4; page 10, lines 5-16; page 12, lines 1-8 and 23-32; and Figures 2-4), and adjusting the power level of the outgoing voice signal stream based on the comparison (page 3, lines 5-9; page 7, lines 3-8; page 9, lines 6-19; page 10, line 18, through page 11, line 13; page 12,

lines 10-21; and Figures 2-4) to operate within compliance of the PSTN before the outgoing voice signal stream enters the output channel in communication with the PSTN. (Page 2, line 31, through page 3, line 5; page 9, line 21, page 10, line 3; page 15, lines 7-12; and Figures 1, 2, and 5).

Independent claim 27 is argued together with dependent claims 28-33.

F. Independent claim 34

Independent claim 34 recites a method for adjusting the power level of a voice signal stream. The method includes measuring a power level of an outgoing voice signal stream at a number of points in time before the outgoing voice signal stream enters an output channel that is communicating the outgoing voice signal stream to a Public Switched Telephone Network (PSTN) (page 2, line 31, through page 3, line 9; page 6, line 1, through page 7, line 26; page 8, lines 1-22; page 11, lines 31-33; page 15, lines 7-12; and Figures 1-5), comparing a number of the power levels measured with a number of thresholds (page 6, line 25, through page 7, line 8; page 7, lines 26-33; page 8, line 24, through page 9, line 4; page 10, lines 5-16; page 12, lines 1-8 and 23-32; and Figures 2-4), and gradually adjusting the power level of the outgoing voice signal stream over time based on the comparison to bring the power level toward a target output level (page 3, lines 5-9; page 7, lines 3-8; page 9, lines 6-19; page 10, line 18, through page 11, line 13; page 12, lines 10-21; and Figures 2-4) to operate within compliance of the PSTN before the outgoing voice signal stream enters the output channel in communication with the PSTN. (Page 2, line 31, through page 3, line 5; page 9, line 21, page 10, line 3; page 15, lines 7-12; and Figures 1, 2, and 5).

Independent claim 34 is argued together with dependent claims 35-37.

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

A. Whether or not claims 1-37 are unpatentable under 35 USC § 102(b) over Smith et al. (US Patent 5,267,322) (Digital Automatic Gain Control with Lookahead, Adaptive Noise Floor Sensing, and Decay Boost Initialization).

## **VII. ARGUMENT – Including a Reply to the Examiner's Answer**

A. Arguments against the rejections under § 102(b) over the Smith '322 reference.

### **1. Arguments regarding claims 1-37.**

Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon* 919 F.2d 688, 16 USPQ 2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, “[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, arranged as in the claim.” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)).

Appellants respectfully submit that Smith does not support a *prima facie* case of anticipation under § 102(b) for the following reasons:

a. **For claims 1-37, the cited reference does not disclose each and every element.**

Appellant’s independent claims 1, 7, 14, 21, 27, and 34 each presently

recites, “an output channel that is communicating the outgoing voice signal stream to a Public Switched Telephone Network (PSTN)”.

From Appellant’s review of the Smith ‘322 reference, the reference does not describe, “an output channel that is communicating the outgoing voice signal stream to a Public Switched Telephone Network (PSTN)”, as recited in Appellant’s independent claims 1, 7, 14, 21, 27, and 34. For example, the Smith reference states in column 5, lines 27-32:

The telephone interface elements 20 include one or more analog line interface modules 24, which receive incoming calls on a public switched telephone line 70. As is known in the art, the analog interface modules digitize incoming call signals and assign the call to a channel in the system.

Element 70 in Fig. 1A of Smith appears to show output only “to PBX or central office switch”. As found in the Webopedia Computer Dictionary ([www.webopedia.com/TERM/P/PBX.html](http://www.webopedia.com/TERM/P/PBX.html)), the definition of “PBX” is “*private branch exchange*, a private telephone network used within an enterprise.” (Emphasis in original). Smith also states, “As shown in Fig. 1C, voice data samples are obtained by the analog interface modules 24 which receive analog voice audio 80 from a telephone line on trunk 70.” (Col. 6, line 67, through col. 7, line 1). The “central office switch” to which output is sent from element 70 in Fig. 1A of Smith, as in the Webopedia Computer Dictionary, also appears to be utilized with “a private telephone network used within an enterprise.”

In addition, Smith states in the System Overview that “The system preferably is the VoiceServer 2110 product commercially available from Digital Sound Corp., Carpinteria, Calif.” (Col. 5, lines 15-18). Hence, the Smith reference appears to describe a voice messaging system to receive incoming calls on a public switched telephone line and internally assign such calls to a line, or channel, in the system.

The Smith ‘322 reference does not show a gain adjustment module including program instructions to adjust the power level of the outgoing voice signal stream by applying the gain value to the outgoing voice signal stream to operate within compliance of a Public Switched Telephone Network (PSTN) before the outgoing voice signal stream enters an output channel connected to the PSTN. As such, the Smith ‘322 reference does not describe, “an output channel that is communicating the outgoing voice signal stream to a Public Switched Telephone Network (PSTN)”, as recited in Appellant’s independent claims 1, 7, 14, 21, 27, and 34.

Hence, the Smith ‘322 reference does not describe:

a gain adjustment module including program instructions to adjust the power level of the outgoing voice signal stream by applying the gain value to the outgoing voice signal stream to operate within compliance of the PSTN before the outgoing voice signal stream enters the output channel in communication with the PSTN.

as recited in Appellant’s independent claim 1, as previously presented;

a gain factor setting module coupled to the gain adjustment module wherein the gain factor setting module includes program

instructions to set the gain value by comparing the measured power level to a threshold to operate within compliance of the PSTN before the outgoing voice signal stream enters the output channel in communication with the PSTN.

as recited in Appellant's independent claim 7, as previously presented;

means for adjusting a power level of the voice signal stream to operate within compliance of the PSTN before the outgoing voice signal stream enters an output channel in communication with the PSTN;

as recited in Appellant's independent claim 14, as previously presented;

adjusting the power level of the outgoing voice signal stream based on the comparison to operate within compliance of the PSTN before the outgoing voice signal stream enters the output channel in communication with the PSTN.

as recited in Appellant's independent claims 21 and 27, as previously presented; and

gradually adjusting the power level of the outgoing voice signal stream over time based on the comparison to bring the power level toward a target output level to operate within compliance of the PSTN before the outgoing voice signal stream enters the output channel in communication with the PSTN.

as recited in Appellant's independent claims 21 and 27, as previously presented.

As indicated in the Summary of Claimed Subject Matter in Section V of the present Appeal Brief, support for the underlined elements of the just-recited claims

can be found in the specification of the present application as originally filed. For example, the specification recites on page 6, line 31, through page 7, line 1:

In the embodiment shown in Figure 2, the gain controller 220 uses computer executable instructions to monitor the power level of the signal stream between a voice signal source 202 and an output channel 208, that is in communication with the PSTN 222.

Further support can be found on: page 6, lines 10-15; page 12, lines 15-16; and page 15, lines 7-12. Additional support can be found elsewhere in the specification as originally filed, as indicated in the Summary of Claimed Subject Matter, for example in Figures 1, 2, and 5.

The Examiner asserts on page 9 of the Examiner's Answer that:

The Examiner contends that trunk 70 [in Figure 1A] to the central office as a PSTN interface ('output channel' in appellant's claims) and that the AGC disclosed by smith [*sic*] will operate on all signals on the TDM during a realtime telephone call, which would include incoming and outgoing voice signals. Smith never states that the AGC only acts on incoming signals.

Appellant respectfully traverses this assertion.

Appellant respectfully submits that Smith does not describe, for example:

a gain adjustment module including program instructions to adjust the power level of the outgoing voice signal stream by applying the gain value to the outgoing voice signal stream to operate

within compliance of the PSTN before the outgoing voice signal stream enters the output channel in communication with the PSTN.

as recited in Appellant's independent claim 1, as previously presented.

Appellant respectfully submits that Smith only teaches, as presented above with regard to column 5, lines 27-32, of the reference:

The telephone interface elements 20 include one or more analog line interface modules 24, which receive incoming calls on a public switched telephone line 70. As is known in the art, the analog interface modules digitize incoming call signals and assign the call to a channel in the system.

As also presented above, Smith states in the System Overview that "The system preferably is the VoiceServer 2110 product commercially available from Digital Sound Corp., Carpinteria, Calif." (Col. 5, lines 15-18). Hence, the Smith reference appears to describe a voice messaging system to receive incoming calls on a public switched telephone line and internally assign such calls to a line, or channel, in the system.

Moreover, although the express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. § 102, "[t]he fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic." In re Rijckaert, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and

that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. ” In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original).

With respect to the Examiner's assertions presented above, Appellant respectfully submits that just because an automatic gain control system may be used in the context of outgoing calls to the PSTN, this does not mean that Smith inherently teaches that an automatic gain control system must necessarily be used in the context of outgoing calls to the PSTN. Rather, it would appear that the Examiner has asserted that a certain result may occur, but has not provided "any basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art."

In other words, it does not appear that the extrinsic evidence provided by the Examiner has made clear (1) that the missing descriptive matter is necessarily present in the thing described in the reference, (2) that it would be so recognized by persons of ordinary skill, or (3) that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.

As such, there is no indication in the Smith reference that the voice messaging system operates on any calls other than incoming calls. As presented above, “[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, arranged as in the claim.” Appellant respectfully submits that the Examiner’s assertion that “Smith never states that the AGC only acts on incoming signals” is incorrect and that, in any case, asserting that a reference does not teach away from a claim element does not satisfy the condition for a § 102(b) rejection that “[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, arranged as in the claim.” Hence, Appellant respectfully submits that the Examiner has inappropriately applied § 102(b) to independent claims 1, 7, 14, 21, 27, and 34, as previously presented.

The Examiner then asserts on page 9 of the Examiner's Answer that:

Appellant’s Specification gives no limitation or guidance as to what defines the boundaries of the PSTN, other than to say that it conforms with known standards. The examiner reads the PSTN as defined by any devices (such as telephones), that are connected to it. Since a well-known PSTN is bidirectional, any path may be considered an ‘input channel’ or an ‘output channel’ depending on which end is receiving the data t that moment.

Appellant respectfully traverses this assertion.

Appellant respectfully submits that the specification of the present application does give limitation or guidance as to what defines the boundaries of the PSTN, in addition to defining conformity with known standards. Among a number of examples, the specification as originally submitted provides support for the previous statement by reciting, “Terminal equipment includes communications equipment at the end of a communications link used to permit access to the PSTN.” (Page 1, lines 17-19). The specification goes on to recite, “Under Part 68, the terminal equipment has to be certified by the FCC and/or the Administrative Counsel for Terminal Attachments (ACTA).” (Page 1, lines 24-25).

The specification of the present application as originally submitted recites, “the certification body evaluates the equipment and certifies the equipment based on the results of tests performed on the sample by the certification body.” (Page 1, lines 30-32). The specification further recites, “However, the test results may not equate to actual use conditions. Therefore, the equipment may not be compliant under some actual use conditions.” (Page 2, lines 12-14).

Further limitations and/or guidance as to what defines the boundaries of the PSTN, as described in the present application, can be found with regard to Figure 5. As recited in the specification as originally submitted on page 13, lines 8-11:

Figure 5 is a block diagram of a mobile network embodiment illustrating a mobile device 502, communicating with a mobile switching center (MSC) 542. One type of mobile network includes an IS-41/CDMA network as the same are known and understood by one of ordinary skill in the art.

The specification goes on to recite on page 13, lines 13-17:

In a typical wireless communication system, the MSC is connected to a plurality of base stations that are dispersed throughout the geographic area serviced by the system. The geographic area serviced by a wireless communications system is partitioned into a number of spatially distinct areas called “cells.”

The specification of the present application as originally submitted further recites, “As shown in Figure 5, the gateway MSC 504 can serve as a network switch for connecting to a public switched telephone network (PSTN) 522.” (Page 14, lines 29-31). In addition, the specification recites on page 15, lines 7-10:

Along the route to connection of the call signal to the PSTN 522, a gain controller, as described in Figures 1 and 2, can be used to adjust the gain. This can enable a system such as that shown in Figure 5 to comply with the maximum gain standards provided in Part 68.

Moreover, further support can be found, among other locations, at: page 2, lines 2-4; page 2, line 31, through page 3, line 3; page 6, lines 4-8; page 12, lines 14-16; page 12, lines 29-31; page 15, lines 4-5; and Figures 1, 2, and 5.

A website for “internet professionals” (<http://inetdaemon.com/tutorials/telecom/pstn/definition.shtml>) provides a definition of the public switched telephone system (PSTN), as recited in independent claims 1, 7, 14, 21, 27, and 34 of the present application. The definition states:

This system is made available to the public through a group of common communications carriers such as American and Canadian phone companies who have agreed to exchange calls and connections on behalf of their subscribers as mandated by international law and the laws of the country in which they do business and provide telephone service. Anyone who subscribes to this public service may make calls to anyone else who has purchased access to the phone system through any carrier.

The PSTN is composed of telephone exchanges networked together to form a nationwide (and worldwide) telephone communications system. It is public because (theoretically) the system is available to anyone who can afford the service.

In contrast, as previously presented, the Smith reference in general, and element 70 in Fig. 1A in particular, appears to show output only “to PBX or central office switch”. The website for internet professionals (<http://inetdaemon.com/tutorials/telecom/pstn/pbx/index.shtml>) also provides a definition for a private branch exchange that states, “A Private Branch Exchange (PBX) is a call switching device owned and operated by a private company.” The definition goes on to state, “The PBX makes it possible for an organization to make calls within their own organization without using the external phone company and without purchasing a large number of voice phone circuits.”

Hence, Appellant respectfully submits that the specification of the present application does give limitation or guidance as to what defines the boundaries of the

PSTN, in addition to saying that it conforms with known standards, contrary to the assertion of the opposite by the Examiner.

In addition, Applicant respectfully submits that the difference between the PSTN, as claimed in the present application, and a PBX, to which the description of the Smith reference appears to be limited, can be appreciated by one of ordinary skill in the relevant art. That is, the PSTN is made available to the public through a group of common communications carriers, such as American and Canadian phone companies, as mandated by international law and the laws of the country in which they do business and provide telephone service and the PSTN is public because the system is available to anyone who can afford the service.

Hence, the PSTN is distinguishable from a PBX, as described in Smith, because a PBX is a call switching device owned and operated by a private company that makes it possible for an organization to make calls within their own organization without using the external phone company. As such, devices such as described in Smith, and the like, are not necessarily controlled by international law and the laws of the country in which they are utilized, unlike an apparatus that is communicating an outgoing signal stream to the PSTN.

In summary, as discussed and illustrated with regard to Figure 5, and recitations throughout the specification of the present application, the gain value adjustment before the outgoing voice signal stream enters an output channel that is communicating the outgoing voice signal stream to the PSTN is not compatible with a call switching device owned and operated by a private company that makes it possible for an organization to make calls within their own organization without

using the external phone company. That is, call switching devices (e.g., a PBX) are not regulated by international law and the laws of the country in which they do business and provide telephone service, in contrast to a gain control system as described and claimed in the present application.

In the Supplemental Examiner's Answer of February 8, 2008, the Examiner asserted:

The examiner notes that appellants claims as written would read on any terminal, or network (such as PBX) that connects to the PSTN and performs 'gain control' in order to meet the known standards of a PSTN. The examiner contends that any device terminal, or PBX network that is designed to be used with the PSTN would be designed to conform to the already known standards of the PSTN.

Appellant respectfully submits, as presented above in detail, that the Smith reference discloses a device operable with a PBX that functions as a call switching device owned and operated by a private company that makes it possible for an organization to make calls within their own organization without using the external phone company. As such the device disclosed by Smith does not necessarily perform gain control to meet the "known standards of the PSTN" because the known standards of the PSTN are irrelevant a device as disclosed by Smith operating in the context of a PBX.

Appellant further submits that the claims as written do not read on any terminal or network (such as PBX) that connects to the PSTN because every independent claim of the present disclosure repeatedly qualifies such a connection

as applying to an outgoing voice signal stream that enters an output channel that is communicating to a PSTN. The Smith reference does not describe, teach, or suggest a PBX that provides an outgoing voice signal stream that enters an output channel that is communicating to a PSTN because that would be contrary to the purpose of a PBX that functions as a call switching device owned and operated by a private company that makes it possible for an organization to make calls within their own organization without using the external phone company.

Moreover, Appellant respectfully submits that, as presented in the Background of the application as originally submitted, a problem to be overcome is, “In order to comply with these [PSTN] guidelines, manufacturers, or certification boards, can test the terminal equipment by using test signals that are passed through a particular piece of terminal equipment to test for compliance with FCC Part 68.” (Page 2, lines 6-9). The problem is further articulated as:

However, the test signals may not equate to actual use conditions.

Therefore, the equipment may not be compliant under some actual use conditions. Additionally, since test signals are used to test the terminal equipment, the equipment cannot be sending and receiving actual communications during the testing period.

The gain control as applied to an outgoing voice signal stream that enters an output channel that is communicating to a PSTN, as disclosed in the present application, overcomes these potential problems in having a system that complies with the PSTN guidelines. As presented above, complying with PSTN guidelines is irrelevant to a device as disclosed by Smith because a PBX that functions as a call switching

device owned and operated by a private company that makes it possible for an organization to make calls within their own organization without using the external phone company has no need for complying with PSTN guidelines.

As such, Appellant respectfully submits that each and every element and limitation of independent claims 1, 7, 14, 21, 27, and 34, as previously presented, is not present in the Smith reference. Accordingly, Appellant respectfully requests reconsideration and withdrawal of the § 102(b) rejection of independent claims 1, 7, 14, 21, 27, and 34, as previously presented, as well as those claims that depend therefrom.

### CONCLUSION

Appellant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner and/or members of the Board are invited to telephone Appellant's attorney Edward J. Brooks III at (612) 236-0120 to facilitate this appeal.

At any time during the pendency of this application, please charge any additional fees or credit overpayment to the Deposit Account No. 08-2025.

**CERTIFICATE UNDER 37 C.F.R. §1.8:** The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: **MS Appeal Brief-Patents**, Commissioner for Patents, P.O. BOX 1450 Alexandria, VA 22313-1450, on this 27 day of February 2008.

Jennifer L. Vomhof  
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2/27/2008  
Date:

## VIII. CLAIMS APPENDIX

1. (Previously Presented) A gain controller, comprising:
  - a measurement module including program instructions to measure a power level of an outgoing voice signal stream before the outgoing voice signal stream enters an output channel that is communicating the outgoing voice signal stream to a Public Switched Telephone Network (PSTN);
  - a gain factor setting module including program instructions to set a gain value by comparing the measured power level to a threshold; and
  - a gain adjustment module including program instructions to adjust the power level of the outgoing voice signal stream by applying the gain value to the outgoing voice signal stream to operate within compliance of the PSTN before the outgoing voice signal stream enters the output channel in communication with the PSTN.
2. (Original) The controller of claim 1, wherein the gain factor setting module includes program instructions to compare the measured power level to at least two thresholds in order to set the gain value.
3. (Original) The controller of claim 1, wherein the gain factor setting module includes program instructions to store measured power levels and a previously applied gain value to a memory.
4. (Original) The controller of claim 1, wherein the gain adjustment module includes program instructions to apply the gain value, set by the gain factor setting module, to the voice signal stream to maintain the power level between a high threshold and a low threshold.
5. (Original) The controller of claim 1, wherein the gain adjustment module includes program instructions to multiply the power level by the gain value.

6. (Original) The controller of claim 1, wherein the gain adjustment module includes program instructions to add the gain value to the power level.
7. (Previously Presented) A gain control system, comprising:
  - a switch to receive a voice signal stream from a voice signal source;
  - a gain adjustment module to receive an outgoing voice signal stream from the switch, the gain adjustment module including program instructions to adjust a power level of the outgoing voice signal stream by applying a gain value to the outgoing voice signal stream;
  - a measurement module including program instructions to measure a power level at a number of segments of the outgoing voice signal stream before the outgoing voice signal stream enters an output channel that is communicating the outgoing voice signal stream to a Public Switched Telephone Network (PSTN); and
  - a gain factor setting module coupled to the gain adjustment module wherein the gain factor setting module includes program instructions to set the gain value by comparing the measured power level to a threshold to operate within compliance of the PSTN before the outgoing voice signal stream enters the output channel in communication with the PSTN.
8. (Original) The system of claim 7, wherein the gain adjustment module can adjust the gain before the voice signal stream has entered an output channel.
9. (Original) The system of claim 7, further including memory to store a number of power level measurements taken at the number of segments in the voice signal stream.
10. (Original) The system of claim 9, further including program instructions to add the number of power level measurements together to provide a total power level.

11. (Original) The system of claim 10, further including program instructions to average the added power level measurements to provide an average power level.
12. (Original) The system of claim 7, further including program instructions to compare the measured power level to two different high threshold levels.
13. (Original) The system of claim 7, further including program instructions to compare the measured power level to a high threshold level and a low threshold level.
14. (Previously Presented) A gain control system, comprising:  
a voice signal source to produce an outgoing voice signal stream, the voice signal source coupled to a Public Switched Telephone Network (PSTN);  
a media platform coupled to the PSTN and the voice signal source, the media platform having:  
a switch to receive the voice signal stream from the voice signal source;  
a measurement module including program instructions to measure a power level of an outgoing voice signal stream before the outgoing voice signal stream enters an output channel that is communicating the outgoing voice signal stream to the PSTN;  
means for adjusting a power level of the voice signal stream to operate within compliance of the PSTN before the outgoing voice signal stream enters an output channel in communication with the PSTN; and  
the output channel in communication with the PSTN to receive the voice signal stream from the media platform.
15. (Original) The system of claim 14, wherein means for adjusting the power level of the voice signal stream includes a gain controller having a set of computer executable instructions.

16. (Original) The system of claim 15, wherein the gain controller includes a measurement module, a gain factor setting module, and a gain adjustment module.
17. (Original) The system of claim 16, wherein the measurement module measures the power level of the voice signal stream.
18. (Original) The system of claim 16, wherein the gain factor setting module sets a gain value for application to the power level based upon measurement information from the measurement module.
19. (Original) The system of claim 16, wherein the gain adjustment module adjusts the gain applied to the power level based upon the gain value selected by the gain factor setting module.
20. (Original) The system of claim 14, wherein means for adjusting the power level includes program instructions stored in memory within the media platform and executed by a processor.
21. (Previously Presented) A method for adjusting the power level of a voice signal stream, comprising:
- receiving an outgoing voice signal stream;
  - measuring a power level of the outgoing voice signal stream at a number of points in time before the outgoing voice signal stream enters an output channel that is communicating the outgoing voice signal stream to a Public Switched Telephone Network (PSTN);
  - comparing at least one of the power levels measured at the number of points in time with a threshold; and
  - adjusting the power level of the outgoing voice signal stream based on the comparison to operate within compliance of the PSTN before the outgoing voice signal stream enters the output channel in communication with the PSTN.

22. (Original) The method of claim 21, wherein comparing at least one of the power levels measured at the number of points in time includes comparing at least one of the measured power levels to at least two thresholds.
23. (Original) The method of claim 21, wherein adjusting the power level of the voice signal stream includes applying a gain value to the stream.
24. (Original) The method of claim 21, wherein measuring the power level at a number of points in time includes measuring a power level of a number of segments of the voice signal stream.
25. (Original) The method of claim 24, wherein comparing at least one of the power levels to a threshold includes comparing the measured power level at each segment with the threshold.
26. (Original) The method of claim 21, wherein the method further includes averaging the power levels measured at the number of points in time and comparing the average to a threshold.
27. (Previously Presented) A computer readable medium having a program to cause a device to perform a method, comprising:
- receiving an outgoing voice signal stream;
  - measuring a power level of the outgoing voice signal stream at a number of points in time before the outgoing voice signal stream enters an output channel that is communicating the outgoing voice signal stream to a Public Switched Telephone Network (PSTN);
  - comparing at least one of the measured power levels with a threshold; and
  - adjusting the power level of the outgoing voice signal stream based on the comparison to operate within compliance of the PSTN before the outgoing voice signal stream enters the output channel in communication with the PSTN.

28. (Original) The computer readable medium of claim 27, wherein adjusting the power level of the voice signal stream includes adjusting the power level in differing increments based on a proximity of the measured power level to the threshold.
29. (Original) The computer readable medium of claim 27, wherein the method further includes defining an average measured power level of a number of segments.
30. (Original) The computer readable medium of claim 29, wherein a power level of a newest measured segment replaces a power level of an oldest measured segment and a new average is calculated.
31. (Original) The computer readable medium of claim 27, wherein adjusting the power level includes adjusting before the signal stream enters a T1 channel connected to a Public Switched Telephone Network.
32. (Original) The computer readable medium of claim 27, wherein receiving a voice signal stream includes receiving a voice signal stream stored in memory.
33. (Original) The computer readable medium of claim 27, wherein receiving a voice signal stream includes receiving a voice signal stream output from a text-to-speech application program.
34. (Previously Presented) A method for adjusting the power level of a voice signal stream, comprising:
- measuring a power level of an outgoing voice signal stream at a number of points in time before the outgoing voice signal stream enters an output channel that is communicating the outgoing voice signal stream to a Public Switched Telephone Network (PSTN);
  - comparing a number of the power levels measured with a number of thresholds; and

gradually adjusting the power level of the outgoing voice signal stream over time based on the comparison to bring the power level toward a target output level to operate within compliance of the PSTN before the outgoing voice signal stream enters the output channel in communication with the PSTN.

35. (Original) The method of claim 34, wherein gradually adjusting the power level includes changing an amount of adjustment based upon a proximity of the power level to the target output level.

36. (Original) The method of claim 34, wherein comparing a number of power levels includes comparing the power levels to four thresholds.

37. (Original) The method of claim 36, wherein gradually adjusting the power level includes increasing an amount of adjustment when the power level is outside a first set of thresholds with respect to the target output level.

**IX. EVIDENCE APPENDIX**

None

**X. RELATED PROCEEDINGS APPENDIX**

None